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CW83: Intro to Surface Area

**Geometry**

**Exploration #1 – Surface Area**

What is surface area? Is surface area the same as volume?

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| **Rectangular Prism** | |
| 1) Carefully deconstruct the rectangular prism.  Image result for rectangular prism  a. Find the surface area of each face of the prism.  b. What is the total surface area? | 2) Draw a rough sketch of what your rectangular prism looks like when it is unfolded or deconstructed. |
| **Right Cylinder** | |
| 3) Carefully deconstruct the right cylinder. If you cannot deconstruct the cylinder, use string to find the circumference. Include units!  a. What is the surface area of one circle (the top or the base of the cylinder)? What is the surface area of both circles?  b. What is the surface area of the side of the cylinder? How can you find this?  c. What is the total surface area? | 4) In the space below, draw a rough sketch of what your right prism looks like when it is unfolded or deconstructed. |

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| **Rectangular Prisms:** | |
| 5) ***Describe*** how you would find the surface are of the following. Calculate the surface area. | 6) Find the area of each face from the figure in #5. . What is the total surface area? What is different between the figure in #5 and the figure in #1. |

**Homework -Practice Problems:**

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| 1) Find the surface area of the solid formed by the net. Round your answer to two decimal places. | 2) Find the surface area of the solid formed by the net. Round your answer to two decimal places. | 3) Find the surface area of the right prism. Round your answer to two decimal places. |
| 4) Find the surface area of the right cylinder using the given radius *r* and height *h*. Round your answer to two decimal places.  *r* = 5 cm; *h* = 15 cm | 5) Find the surface area of the right cylinder using the given radius *r* and height *h*. Round your answer to two decimal places.  *r* = 12 in.; *h* = 18 in. | 6) Solve for *x* given the surface area *S* of the right prism or right cylinder. Round your answer to two decimal places. *S = 320m2* |
| 7) Solve for *x* given the surface area *S* of the right prism or right cylinder. Round your answer to two decimal places. *S* = 1000 cm2 | 8) CHALLENGE: Find the radius of a right cylinder with a surface area of 48π square feet. The height of the cylinder is 5 feet. | 9) As a birthday present for a friend, you buy a cylindrical box of candy. The diameter of the box is 6 inches and the height is 8 inches. What is the minimum amount of wrapping paper needed to wrap the gift? Round your answer to two decimal places. |